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INT-03-006

June 30, 2004

To: Commissioner for Patents
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Subject: | Serial No. 10/823,099 04/13/04 |

Thomas Aisenbrey et al.

LOW COST INTEGRATED CIRCUIT CHIP OR
MULTI-CHIP CARRIER ALSO SERVING
FUNCTION AS HEAT SINK PLUS ANTENNA
USING CONDUCTIVE PLASTICS OR
CONDUCTIVE COMPOSITES

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation
In An Application.

The following Patents and/or Publications are submitted to
comply with the duty of disclosure under CFR 1.97-1.99 and
37 CFR 1.56.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being
deposited with the United States Postal Service as first class
mail in an envelope addressed to: Commissioner for Patents,
P.O. Box 1450, Alexandria, VA 22313-1450, on July 2, 2004.

George O. Saile, Reg.# 19572

Signature/Date George O. Saile 7/2/04

U.S. Patent 5,771,027 to Marks et al., "Composite Antenna," describes a composite antenna having a grid comprised of electrical conductors woven into the warp of a resin reinforced cloth forming one layer of a multi-layer laminate structure of an antenna.

U.S. Patent 6,249,261 to Solberg, Jr. et al., "Polymer, Composite, Direction-finding Antenna," describes a direction-finding material constructed from polymer composite materials which are electrically conductive.

"Nanocomposite Materials Offer Higher Conductivity and Flexibility," by McCluskey, et al., Proceedings of 3rd International Conf. on Adhesive Joining and Coating Tech. in Electronics Manufacturing, 1998, pp. 282-286, describes the mechanical and electrical characteristics of a conductive polymer made with conductive silver nanoparticle fillers.

U.S. Patent 6,138,348 to Kulesza et al., "Method of Forming Electrically Conductive Polymer Interconnects on Electrical Substrates," presents a method for forming a bumped substrate and for forming an electrical circuit which includes the bumped substrate.

U.S. Patent 4,841,099 to Epstein et al., "Electrically Insulating Polymer Matrix with Conductive Path Formed In Situ," teaches an electrical component made from an electrically insulating polymer matrix filled with electrically insulating fibrous filler which is capable of heat conversion to electrically conducting fibrous filler and has at least one continuous electrically conductive path formed in the matrix by the in situ heat conversion of the electrically insulating fibrous filler.

U.S. Patent 5,685,632 to Schaller et al., "Electrically Conductive Plastic Light Source," relates to light sources such as battery-powered flashlights and lanterns, automotive tail light assemblies, battery housing, or head assemblies for light sources are formed from electrically conductive plastic.

UK Patent Application GB 2 377 449 A to Sayers, "Electrically Conductive Polymer Composition," discusses electrically conductive compositions and their use to prevent electrostatic discharge and to earth electrical devices.

U.S. Patent 6,277,303 to Foulger, "Conductive Polymer Composite Materials and Methods of Making Same," describes conductive polymer composite materials.

U.S. Patent 4,431,270 to Funada et al., "Electrode Terminal Assembly on a Multi-Layer Type Liquid Crystal Panel," describes lead terminals of a liquid crystal display panel and the terminal pads on a circuit board.

U.S. Patent 5,023,624 to Heckaman et al., "Microwave Chip Carrier Package Having Cover-Mounted Antenna Element," describes a chip carrier package with a cover mounted antenna formed from gold or copper.

U.S. Patent 6,582,979 to Coccioli et al., "Structure and Method for Fabrication of a Leadless Chip Carrier with Embedded Antenna," discloses a leadless chip carrier with an embedded antenna of metal traces.

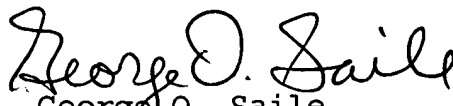
In the article by Morris et al., entitled "Interconnection and Assembly of LCDs," Proceedings Second International Workshop on Active Matrix Liquid Crystal Displays - AMLCDs '95, Sept. 1995, pp. 66-71, interconnections between conductors on the glass LCD cell and the drive electronics are described as having evolved from coarse pitch conductive elastomers to heat seal connectors to anisotropic conductive film bonded tape carrier packages to direct ship attachment.

U.S. Patent 6,368,704 to Murata et al., "Conductive Paste of High Thermal Conductivity and Electronic Part Using the Same," provides a conductive paste that exhibits high thermal conductivity (low thermal resistance) after adhesion and hardening.

U.S. Patent 6,031,492 to Griffin et al., "Mobile Cradle Antenna and Heat Sink Enhancement," describes a mobile telephone cradle with a combination antenna and heat sink.

U.S. Patent 6,377,219 to Smith, "Composite Molded Antenna Assembly," provides a net-shape molded composite heat exchanger which includes a plurality of thermally conductive fins over-molded onto one end of a metallic heat pipe for use both as an antenna in a cellular telephone and a heat exchanger to dissipate the heat generated within the device.

Sincerely,


George O. Saile,
Reg. No. 19572

INFORMATION DISCLOSURE CITATION
IN AN APPLICATION

(Use several sheets if necessary)

PATENT OFFICE
JUL 08 2004

Document Number (Sequence)

INT-03-006

Application Number

10/823,099

Applicant

Thomas Aisenbrey et al.

Filing Date

04/13/04

Group Art Unit

U. S. PATENT DOCUMENTS

EXAMINER INITIALS	SEQUENCE NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE & APPROPRIATE
	4431270	2/14/84	Funada et al.	350	332	9/18/80
	5023624	6/11/91	Heckaman et al.	343	860	10/26/88
	6582979	6/24/03	Coccioli et al.	438	25	7/26/01
	5685632	11/11/97	Schaller et al.	362	205	5/31/95
	4841099	6/20/89	Epstein et al.	174	68.5	5/2/88
	6138348	10/31/00	Kulesza et al.	29	840	3/8/99
	6377219	4/23/02	Smith	343	702	1/10/01
	6031492	2/29/00	Griffin et al.	343	702	6/10/96
	6368704	4/9/02	Murata et al.	428	323	11/16/98
	6249261	6/19/01	Solberg, Jr. et al.	343	801	3/23/00
	5771027	6/23/98	Marks et al.	343	912	4/28/97

FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
GB 2	377449A	1/15/03	United Kingdom	C08K	3/06		

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

-	"Nanocomposite Materials Offer Higher Conductivity and Flexibility", McCluskey et al., Proc. of 3RD Int'l Conf. on Adhesive Joining and Coating Tech. in Electron. Manuf. 1998, pp. 282-286.
-	Morris et al. "Interconnection and Assembly of LCD's" Proc. 2nd Int'l Workshop on Active Matrix Liquid Crystal Displays-AM-LCDs '95, Sept. 1995, pp. 66-71.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

